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THREE NEW SPECIES OF *PTYCHANDRA* FROM MT. APO, MINDANAO (LEPIDOPTERA : NYMPHALIDAE)

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There is a fine revision of the genus *Ptychandra* by H. J. Banks, J. D. Holloway and H. S. Barlow (1976). But they seem not to have examined the material from Mt. Apo, Mindanao. I had the chance to examine some specimens of *Ptychandra* from Mt. Apo. To my surprise, all of them do not agree well with any of the described species according to the key shown in the above-mentioned revision. In addition, I have found that gnathi and valvae of male genitalia tend to vary even in the same specimen, that is to say, the shape of right and left gnathos or valva differs each other in some specimens. So I think we should not attach great importance to the genitalia of the genus.

The holotypes are to be preserved in the Osaka Museum of Natural History.

Ptychandra mizunumai H. Hayashi, sp. nov. (Figs. 1, 2, 7, 10-14)

♂. Upperside predominantly deep purplish blue extending nearly to margin. Forewing with a bluish white subapical fleck and submarginal bluish white chevrons. Black hair pencil arising at base of vein 4. A pale green androconial patch in space 3. Hindwing without black hair pencil in cell. Underside ground colour mid-brown. Three submarginal ocelli on forewing in line.

Forewing length 26 mm.

Male genitalia: Gnathos toothed dorsally. Tip of uncus pointed. Valvae with serrate tips, but the shape of the serrate tips different each other as figured (Figs. 12, 13).

♀. Unknown.

Distribution : Mt. Apo, Mindanao.

Holotype ♂, Mt. Apo, Mindanao, January 1978, T. Ohtani leg.

According to the key to the species of *Ptychandra*, the present species should belong to either *negrosensis* Banks et al. or *lorquinii* Felder & Felder. But the present species is different from the both species in the following respects : 1) No black hair pencil at anterior margin of hindwing cell, but having such hair pencil on hindwing in *negrosensis*. 2) Pale green mealy scales present beneath forewing hair pencil in space 3, while white or brown mealy scales present, or almost absent in *lorquinii*, and white in *negrosensis*. 3) Forewing subapical fleck and submarginal chevrons bluish white, but white or absent in *lorquinii*.

The specific name of this species is dedicated to Mr. Tetsuo Mizunuma who offered the privilege of studying the material and always shows me a warm understanding for my study.

Ptychandra nakamotoi H. Hayashi, sp. nov. (Figs. 3, 4, 8, 15-19)

♂. Upperside predominantly deep purplish blue. Black margin very narrow. Forewing without a subapical fleck, but pale blue submarginal chevrons present indistinctly. Pale blue striae appear obscurely out of submarginal chevrons. Black hair pencil on upperside forewing arising at base of vein 4. A whitish androconial patch in space 3. Hindwing without black hair pencil in cell. Underside ground colour mid-brown. Three submarginal ocelli on forewing in line.

Forewing length 27 mm.

Male genitalia : Gnathos prominently toothed dorsally. Tip of uncus pointed. Valvae with serrate tips, and having some terminal processes, but the shape of the serrate tips different each other as figured (Figs. 17, 18).

♀. Unknown.

Distribution : Mt. Apo, Mindanao.

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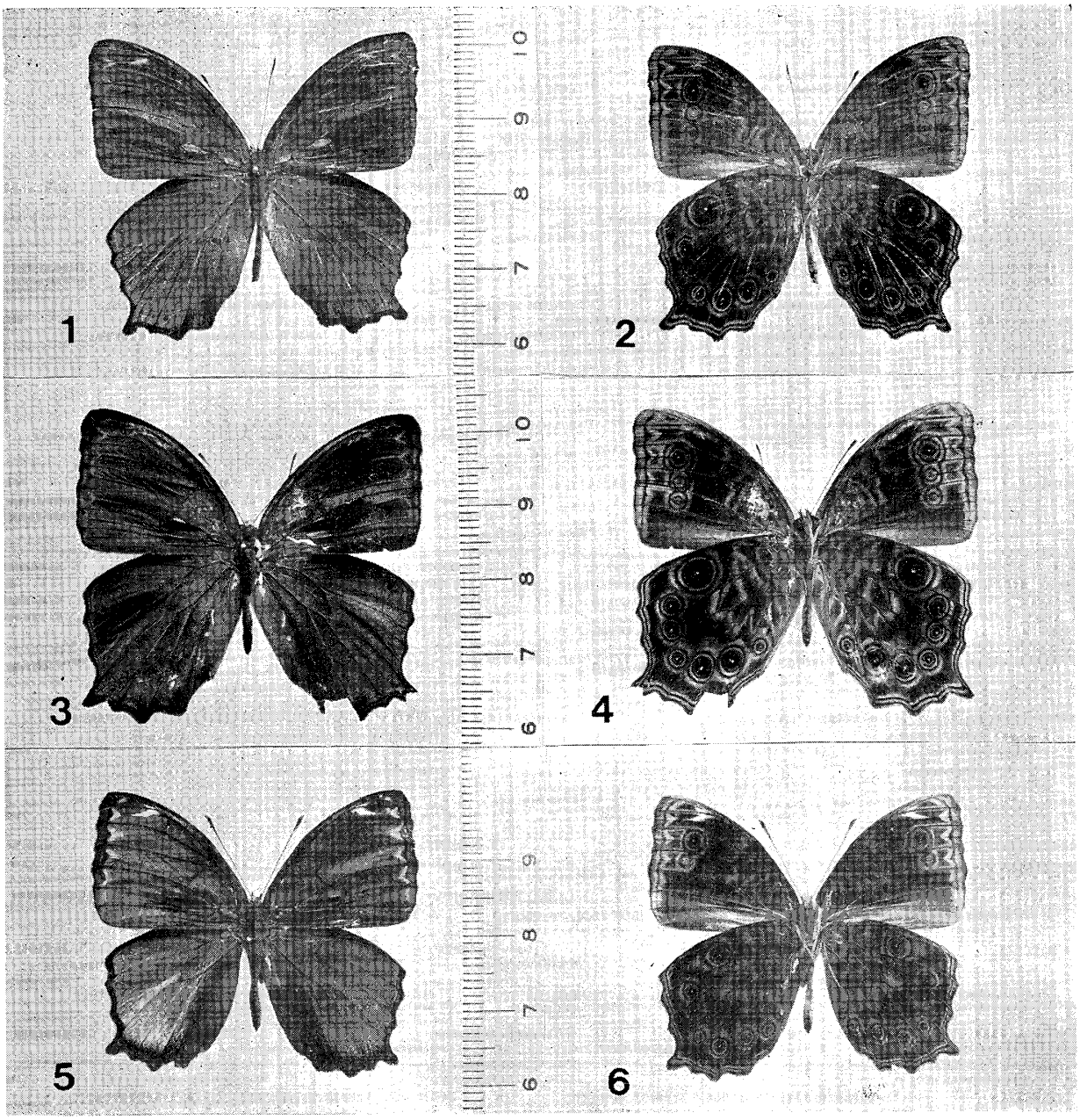
Holotype ♂, Mt. Apo, Mindanao, January, 1978, T. Ohtani leg.

The present species resembles most *lorquinii* Felder & Felder, but differs from this in the following respects: 1) Forewing submarginal chevrons pale blue, while white or absent in *lorquinii*. 2) An ocellus in space 3 in line with other ocelli on underside forewing, but displaced proximally or distally in *lorquinii*. 3) Gnathos much more toothed than *lorquinii*.

I name this new species after Mr. Kazuya Nakamoto who always gives me a cooperative assistance.



Figs. 1, 2. *Ptychandra mizunumai* sp. nov., holotype ♂.
Figs. 3, 4. *Ptychandra nakamotoi* sp. nov., holotype ♂.
Figs. 5, 6. *Ptychandra ohtanii* sp. nov., holotype ♂.

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Ptychandra ohtanii H. Hayashi, sp. nov. (Figs. 5, 6, 9, 20-30)

♂. Upperside predominantly deep purplish blue. Dark brown marginal band comparatively broad. Forewing white subapical fleck prominent. Bluish white submarginal chevrons present rather distinctly. Black hair pencil arising from a well defined pale elliptical area. A whitish or pale brownish androconial patch on and around vein 3. Underside ground colour mid-brown. Two or three submarginal ocelli on forewing.

Forewing length 25-27 mm.

Male genitalia : Gnathos almost smooth or toothed dorsally ; the shape of gnathi of both sides different each other in some material as figured (Figs. 23-26). Tip of uncus smoothly curved. Valvae with serrate tips.

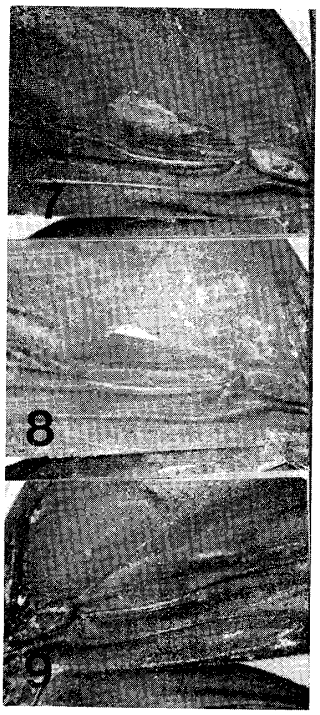
♀. Unknown.

Distribution: Mt. Apo, Mindanao.

Holotype ♂, Mt. Apo, Mindanao, January, 1978, T. Ohtani leg. Paratypes 5♂♂, same locality and data, T. Ohtani leg.

According to the key to the species of *Ptychandra*, the present species should belong to either *leucogyne* Felder & Felder or *mindorana* Semper. But the present species is different from the both species in the following respects : 1) No black hair pencil in upperside hindwing cell, but such hair pencil present in *leucogyne*. 2) Two or three submarginal ocelli on underside forewing, while four submarginal ocelli in *leucogyne*. 3) Hindwing tail hooked, but not hooked in *mindorana*. 4) An ocellus in space 3 almost in line with other ocelli on underside forewing, while inwardly displaced in *mindorana*.

The specific name of this species is dedicated to Mr. Takuya Ohtani who collected the specimens.



Figs. 7. *Ptychandra mizunumai* sp. nov., ♂, forewing brand structure.
Figs. 8. *Ptychandra nakamotoi* sp. nov., ♂, forewing brand structure.
Figs. 9. *Ptychandra ohtanii* sp. nov., ♂, forewing brand structure.

Acknowledgments

I am very grateful to Mr. Tetsuo Mizunuma for his kindness to give me the opportunity to study the material. My hearty thanks are also due to Mr. Takuya Ohtani for his great efforts at collecting butterflies in Mt. Apo.

摘　　要

Ptychandra (Nymphalidae) に関しては，H. J. Banks らによるすばらしいレヴィジョン (1976) があるが，彼らはミンダナオ・アポ山の本属については1個体も検してはいない．筆者はアポ山産本属の標本をいくつか検する機会を得，その研究の結果，ここに3新種を記載した．　　(林　寿一)

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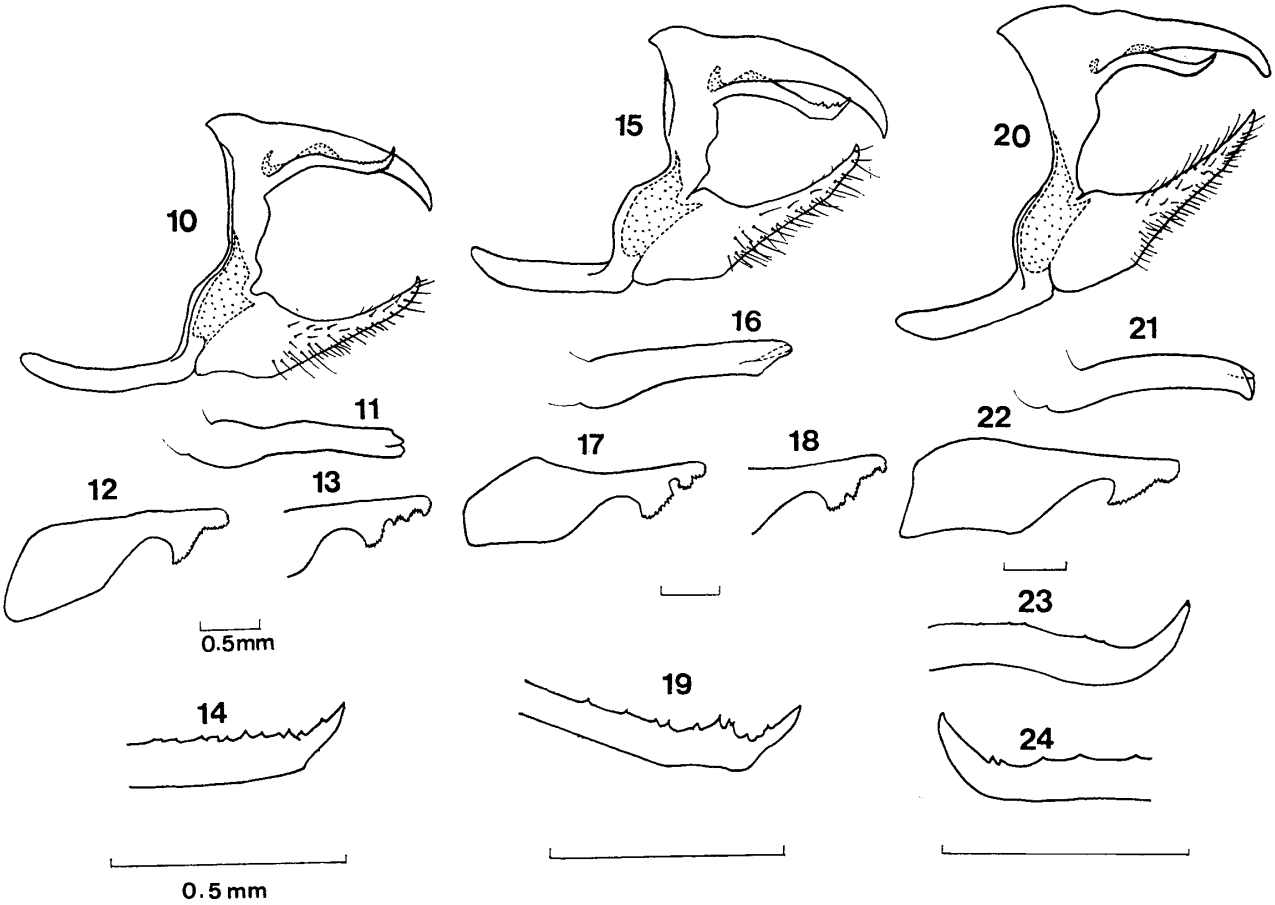
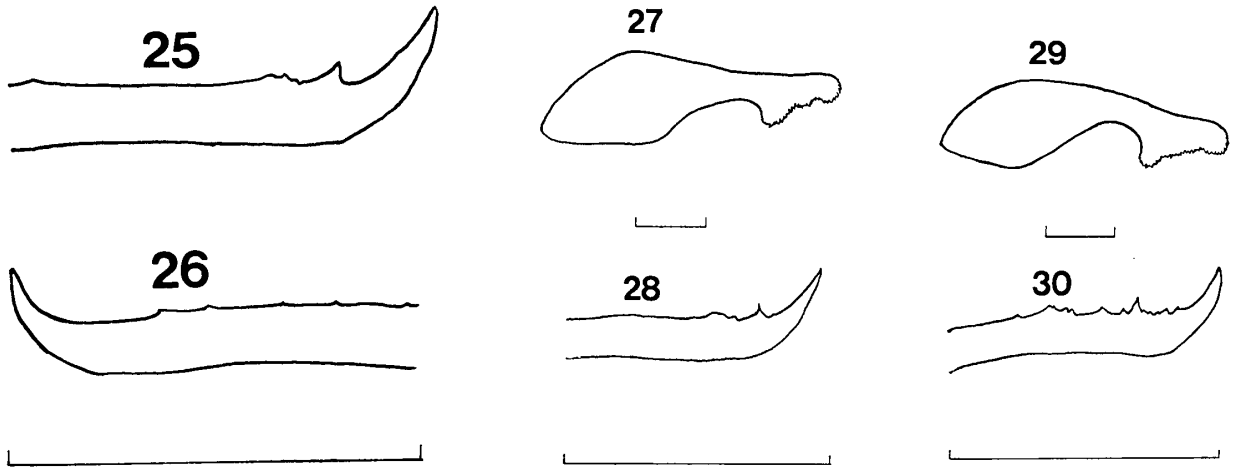


Figs. 10–14. *Ptychandra mizunumai* sp. nov., ♂, genitalia; (10) Lateral aspect with phallus removed; (11) Phallus; (12) Inner aspect of right-hand valva; (13) Outer aspect of left-hand valva; (14) Gnathos.

Figs. 15–19. *Ptychandra nakamotoi* sp. nov., ♂. genitalia: (15) Lateral aspect with phallus removed; (16) Phallus; (17) Inner aspect of right-hand valva; (18) Outer aspect of left-hand valva; (19) Gnathos.

Figs. 20–24. *Ptychandra ohtanii* sp. nov., ♂, genitalia; (20) Lateral aspect with phallus removed; (21) Phallus; (22) Inner aspect of right-hand valva; (23) Left-hand gnathos; (24) Right-hand gnathos.



Figs. 25-30. *Ptychandra ohtanii* sp. nov., paratypes ♂, genitalia for comparison; (25) Left-hand gnathos; (26) Right-hand gnathos; (27) Inner aspect of right-hand valva; (28) Left-hand gnathos; (29) Inner aspect of right-hand valva; (30) Left-hand gnathos.

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